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World Survey of Civil Aviation

NEAR and MIDDLE EAST

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U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION

WORLD SURVEY OF CIVIL AVIATION

NEAR and MIDDLE EAST

1961

U.S. DEPARTMENT OF COMMERCE
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Foreword

This is the fourth in a series of foreign market surveys of civil aircraft and aeronautical products. The first covered Japan, the second Africa, and the third Southwest Asia. The series discusses aircraft fleet composition and commercial and general flight operations. Special emphasis is given to market potential, trade and investment opportunities, and competitive factors affecting the sales of U. S. aircraft and aeronautical products.

Inasmuch as not all of the countries covered in this report publish official aircraft registers, the aircraft statistics were obtained from various official and private sources and compiled by the U. S. Foreign Service.

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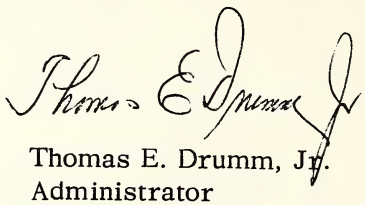

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The Near and Middle East: An Overall View

The 14 Near and Middle East countries discussed in this report have an area of about 3.5 million square miles, almost the size of the United States, and a total population of approximately 103 million. The countries have primarily agricultural economies in varying stages of development; four of them have in addition large oil reserves that contribute a major share to their national income. All of the Governments are trying in various ways to promote industry and to increase the food supply, but these efforts are often hampered by political instability. The climate varies from mild to Mediterranean temperatures in Cyprus to extreme heat and aridity in the Arabian Peninsula.

THE ROLE OF AVIATION IN THE FUTURE OF THE NEAR AND MIDDLE EAST

The future of civil aviation in the Near and Middle East is tied to the economic growth of the region. Air transportation was given impetus by the acquisition at extremely low prices of large numbers of DC-3 and DC-4 aircraft that became surplus to the United States after World War II. The airfields and supporting facilities that were constructed during the war enabled the growth of aviation in the area, which did not have the financial resources to build such facilities.

The lack of adequate surface systems would naturally make air transport the obvious choice for tourists, commercial travelers, and government personnel journeying within or through the area. Air freight services have not represented a large percentage of airline operations, their use being limited mostly to oil and construction firms because of the high cost. However, the shipping of fresh food by air is increasing.

The Governments of the region are alert to the social and economic advantages of air transportation; all except Saudi Arabia are members of the International Civil Aviation Organization (ICAO). Of the 20 national flag, operating airlines, 9 are Government-owned, and the enhancement of national prestige is as important in their operations as are economic factors.

The aircraft on hand and on order would appear to be adequate for the countries' immediate needs, but demand for air service should increase with the economic growth that is actively being fostered by all the Governments. Economic development is needed not only to create demand for airplanes, but also to provide the financial resources to pay for them. Even the present minimal

air service requires subsidy in some of the countries, an expense that is difficult to meet owing to the low per capita national income.

AIRCRAFT MANUFACTURING AND MAINTENANCE

Aircraft production in the area is quite small and is confined to three countries. Egypt and Turkey have produced small single-engine trainer aircraft, and Israel has produced a military jet trainer and is planning to make a twin-jet light executive transport. Spare parts must be imported because few are produced in the region.

The overhaul and maintenance facilities are mostly of a small scale, and major overhaul work is often sent to Europe. However, facilities are growing. The UAR is expanding its base at the Cairo Airport, and the maintenance center of Middle East Airlines in Lebanon has extended its service to several regional air carriers. Among the largest and most completely equipped shops are those in Israel; they do not function as a regional facility, but are used by several international air carriers.

AIRCRAFT IN USE

About 550 civil aircraft are based in the region, and 60 percent of these are of U. S. manufacture. The airlines have about 225 aircraft, of which 55 percent are U. S. makes; nearly 50 are DC-3's. Turbine aircraft in use by the airlines include more than 30 turboprops and 6 jets.

Nearly 330 aircraft are in the general aviation category, of which 50 percent are of U. S. manufacture. Most of these aircraft are light, utility types. Pleasure flying is infrequent, most privately owned aircraft being in business use. About 60 aircraft are used by the Governments for personnel transport, crop dusting, pest control, and aerial surveying. The flying clubs and training schools in the region, most of which are Government subsidized, have about 70 aircraft; these are principally single-engine trainers used for flying instruction, pleasure flying, and, occasionally, charter flights. Approximately 12 aircraft are used in nonscheduled charter operations and more than 30 in crop dusting. More than 100 aircraft are used for business, and an additional 20 for pleasure and/or business.

MARKET POTENTIAL

United States exports of aeronautical products to the Near and Middle East were valued at about $4.8 million in 1960 as compared to $3.3 million in 1958 and $2.3 million in 1959 (see table, p. 33).

Air passenger traffic grew rapidly in the post-World War II years as aviation filled the gap in regional transportation services. Future increases may be slower and more dependent upon economic growth. However, outside factors such as growing tourism could also create greater demands for air service.

The airlines have on order 4 jets and 7 turboprops, of which 2 jets and 2 turboprops are U. S. makes. They would like to acquire 4 or 5 additional turboprops, and 2 or 3 jets, but cannot finance them. The market for large, piston-powered aircraft is small. That for general aviation aircraft is also modest at present, and prospects will depend on economic growth. In the near future, the strongest demand will probably be for business and agricultural aircraft.

Financing arrangements are an important consideration in the sale of aircraft in the area. Some of the countries, for example Kuwait or Saudi Arabia, are able to obtain foreign exchange from oil revenues, but others not having such a source of income have difficulty in financing aircraft purchases. Political conditions must also be taken into account in selling aircraft. National prestige is important in the region and often a controlling influence in determining the type of new craft to be acquired by the Government-owned airlines. Furthermore, purchasers would need an adequate and reliable supply of parts and spares inasmuch as few, if any, of these items are produced in the area.

Aircraft manufactured in the United States have a fine reputation, but they face strong competition, especially in sales financing arrangements, from European manufacturers.

Most of the countries in the region have import controls, usually for the purpose of conserving foreign exchange for essential items. Import tariff levels vary, and, in view of the negligible aircraft production in the region, they are imposed primarily for revenue rather than for protection purposes.

Aden

The British Crown Colony and Protectorate of Aden has an area of about 185,000 square miles, somewhat larger than the State of California, and a population estimated at 810,000. The country is mountainous and mainly arid, but it has some fertile valleys where agriculture and pasturing of livestock are carried on.

ROLE OF AIR TRANSPORTATION

Aircraft provide a rapid domestic and international transportation system across areas where surface transportation is either lacking or very poor. Aviation activities are under the control of the Aden Department of Civil Aviation.

AIRCRAFT IN USE

Aden Airways, Ltd., had 10 aircraft in use as of January 1961.

COMMERCIAL AIRLINES

Service

Aden Airways, the only national flag airline in Aden, is a subsidiary of British Overseas Airways Corporation (BOAC). It offers domestic and regional international service using 7 DC-3's and 3 Canadian Argonauts. Aden is also served by 8 foreign flag air carriers.

Disposal and Reequipment Programs

Aden Airways has expressed a desire for small turboprop aircraft and reportedly has ordered 3 Avro 748's, delivery to begin in 1962.

GENERAL AVIATION

No information concerning general aviation is available.

MARKET POTENTIAL

Aden offers little or no market for U. S. aircraft. Because the airline is a subsidiary of BOAC and Aden is a British Crown Colony, any aircraft acquired by the airline would undoubtedly be of British manufacture.

Aden Civil Air Fleet—10

Aden Airways:	
Douglas DC-3	7
Canadair Argonaut	3

Cyprus

The Republic of Cyprus has an area of about 3,600 square miles, or two-thirds that of the State of Connecticut, and a population of about 580,000. Its climate is hot and dry in the summer and mild in the winter. The economy is predominantly agricultural, though the mining of copper ore and other minerals contributes a large share of the national income.

ROLE OF AIR TRANSPORTATION

Air transportation is used mainly to carry international travelers to and from the Island. The only domestic demand for aircraft is for crop dusting. Airport facilities at Nicosia, the only international airport, have become overcrowded in recent years, and the United Kindgom is aiding in their expansion.

AIRCRAFT IN USE

Cyprus Airways, Ltd., uses leased Viscount and Comet aircraft. No general aviation activities are carried on.

COMMERCIAL AIRLINES

Service

Cyprus Airways is owned 53 percent by the Government of Cyprus, 23 percent by British European Airways Corporation (BEA), and 24 percent by local shareholders. It is operated by BEA, and since 1959 has leased all its aircraft from BEA. Cyprus Airways offers 22 weekly flights to Western Europe and the Middle East. It also provides charter service.

Disposal and Reequipment Programs

Cyprus Airways contemplates no change in its leasing arrangements with BEA.

MARKET POTENTIAL

At present no market is available for U. S. aircraft on account of the leasing and operating arrangements Cyprus Airlines has with BEA. Until the recent civil disturbances, the airline offered a crop dusting service using 2 Auster Aiglet aircraft. These aircraft have been sold, but reportedly the reinstatement of the service is being considered. It is estimated that a total of 5 light aircraft would be adequate for all crop dusting needs. However, because of the country's ties with the United Kingdom and its membership in the sterling bloc, any aircraft imported will probably be of U. K. origin.

Aircraft are subject to an 8-percent ad valorem duty, and imports from countries requiring payment in dollars are subject to a special import license.

Iran

The Kingdom of Iran, 630,000 square miles in area, is about 7 percent larger than Alaska and has a population of more than 19 million. Much of the country is plateau, crossed by numerous mountain chains. The climate is arid or semiarid except in the Caspian coastal area, which has abundant rain.

The income level in this underdeveloped country is low. Agriculture, the principal occupation, includes the activities of some 4.5 million nomads. Oil production is the principal industry, and its revenues are being used by the National Plan Organization to finance a Seven-Year Plan for the construction of dams and roads and for agricultural and industrial projects.

ROLE OF AIR TRANSPORTATION

Air transportation is important to Iran as a fast, comfortable means of communication with other countries. Most of the international travelers in the region must of necessity be air

passengers because satisfactory land links with the surrounding countries are lacking. Domestic air service is also necessary inasmuch as the internal surface transportation system is not well developed.

Tehran has become a major aeronautical communications center in the Middle East, and its airport facilities are being expanded with U. S. assistance. The country has 2 other international airports and 24 smaller airfields. It lacks a trained, industrial labor force, and the airlines require foreign technical and managerial advice and personnel in order to operate.

Civil aviation is regulated by the Department of Civil Aviation in the Ministry of Roads. The Government provides civil airfield and air navigation facilities but does not directly subsidize the operation of the airlines.

Foreign flag landing rights are regulated under bilateral air agreements, which are in effect or under negotiation with some 21 countries.

AIRCRAFT IN USE

Of the 153 aircraft in the Iranian civil air fleet as of December 1959, 26 are operated by the airlines and 127 are in general aviation use. About half of the aircraft used by the airlines are DC-3's, the other types being the DC-4, Viscount, Dove, and York. In addition, a Boeing 707 is leased by one of the airlines for a weekly service to Western Europe. Business activity uses 50 aircraft, government service 41, the flying club 32, and private flying 4.

COMMERCIAL AIRLINES

Service

Iranair, the larger of Iran's two national flag airlines, is privately owned and has a fleet of 13 DC-3's, 2 DC-4's, and 7 Doves, plus 3 Viscounts leased from the Government of Iran. It offers domestic service to 11 civil airfields and international service to the Middle East, Western Europe, India, and Pakistan. From 1954 to 1960, Trans Ocean Airline managed Iranair and supplied managerial and technical personnel. In January 1960, Iranair announced the cancellation of this contract, whereupon Trans Ocean protested that unilateral cancellation was not possible. The conflict remained unresolved through 1960, a situation that seriously impaired Iranair's ability to keep its schedules.

Persian Air Services (PAS), the other national flag airline, is also privately owned. Until mid-1960, it offered only an air freight charter service to the Middle East, using its 1 York, supplemented when necessary by DC-4's leased from Sabena or Trans Mediterannean Airways. It then began weekly service to Western Europe using DC-7's, changing in November to a

Boeing 707. The aircraft are leased from Sabena Airlines, which is also providing the crew for the Boeing 707 and management services.

Both the airlines have had financial and technical difficulties. In an effort to help solve these problems, various proposals have been made for a merger of the two.

Service to Tehran is provided by 14 foreign flag carriers, 4 of which also have landing rights at Abadan.

Reequipment and Disposal Programs

Reequipment and disposal plans of the airlines are not known.

GENERAL AVIATION

The Iranian Oil Consortium operates a large air transportation system using a fleet of 4 Fokker F-27's, 4 DC-3's, 7 Doves, and 6 helicopters. Construction, surveying, and offshore oil prospecting firms use 21 additional aircraft. The planes are of various types, their primary use being the transportation of personnel to widely separated work sites.

Air taxi operations use 4 Piper PA-22 aircraft, private flying uses 4 airplanes, and business flying 4. The Government-supported flying club has 32 aircraft, including both single- and twin-engine trainers. The Government has 41 civil aircraft of various types. The largest user, the Department of Agriculture, has 19 Piper 18's and 12 obsolete Stearmans.

MARKET POTENTIAL

The future aircraft market is dependent upon overall economic growth. The country's main resources other than oil are agricultural. Development in this field is necessary in order to raise the income level and enable the establishment of a complete air transportation system.

Reequipment plans for either of the two commercial airlines must take into account the fact that as yet neither of them has the technical competence to operate new aircraft, so that technicians would have to be acquired along with the planes. The airlines are well aware of this problem and have agreed that the improvement of maintenance facilities and a training program for employees are as essential as new equipment.

For the near future, the oil company will probably continue to be the largest business user of aircraft for general aviation purposes and the Department of Agriculture the largest Government user of civil aircraft.

In the past Iranian year, March 20, 1960, to March 19, 1961, no import licensing or duties restrictions were imposed on aircraft or parts, nor are they expected to be imposed in the current year.

Commercial airlines, total		26
Iranair:		
Douglas DC-3	13	
Douglas DC-4	2	
Vickers Viscount	3	
De Havilland Dove	7	
Persian Air Services (PAS):		
Avro York	1	
General aviation, total		127
Business, total		50
Prestwick Twin Pioneer	1	
Cessna 180	4	
Beechcraft D-18	1	
Beechcraft AT-11	2	
Douglas DC-3	2	
De Havilland 89 Rapide	2	
Aero Commander	4	
Beechcraft C-45	1	
De Havilland Dove	7	
Convair 340	1	
Bell helicopter	3	
Westland helicopter	2	
SUD Allouette II	2	
Fokker Friendship F-27	4	
Bell helicopter D-47J	2	
Sikorsky helicopter S-58	1	
Piaggio	1	
Westland helicopter	2	
North American Navion	1	
Cessna 310 C	1	
Aero Coupe	1	
Piper PA-23	5	
Civil Aviation Club, total		32
Auster J5L	15	
De Havilland Chipmunk	6	
Piper PA 22	5	
Prestwick Twin Pioneer	2	
Prestwick Pioneer	4	
Private ownership, total		4
Aero Commander	1	
Cessna 180	1	
Piper PA-18A	1	
Aero Coupe	1	
Government, total		41
Fokker F-27	1	
Morane Saulnier	1	
French (unknown)	1	
Ilyushin II-14	1	
Westland helicopter	2	
Piper PA-18A	19	
Stearman	12	
Prestwick	2	
Auster J-5	1	
Beechcraft D-18	1	

Iraq

The Republic of Iraq has an area of about 172,000 square miles, compared with 159,000 for the State of California, and a population of approximately 6.5 million. Its topography is varied--a desert in the south, the irrigated plain of the Tigris and Euphrates in the center, and rain-fed plains and mountains in the north and east. The summers are hot and winters mild. The economy is predominantly agricultural, an estimated 70 percent of the population being engaged in farming. Other than the exploitation of the large petroleum reserves that provide about 27 percent of the national income, industry is negligible.

ROLE OF AIR TRANSPORTATION

Air services provide fast, comfortable passenger transportation and rapid cargo movement on internal and international routes. Though a vital industry, air transportation is not large owing to the underdeveloped state of the economy. The single national flag airline is owned by the Government, and its operations are motivated by considerations of national prestige as well as economic factors.

Iraq has airports at Baghdad and the Port of Basra to handle international traffic, and civil airfields at Mosul and Kirkuk for internal service. Civil aviation is regulated by the Civil Aviation Directorate of the Ministry of Communications.

AIRCRAFT IN USE

A total of 40 aircraft were registered in Iraq in October 1958. The airline owns 8 aircraft, all of U. K. origin. The other 32 aircraft are in general aviation, 17 U. S. makes being used by the Ministry of Agriculture and 6 planes--5 U. K. and 1 Czechoslovakian--by the flying club. Business firms use 9 aircraft, 2 of which are of U. S. manufacture.

COMMERCIAL AIRLINES

Service

The Government-owned and operated Iraq Airways (IA), Iraq's only domestic airline, provides internal and international services using 4 Viscounts, 1 Dove, and 3 Vikings. In addition to domestic service to the 4 civil airfields in Iraq, IA offers service to Eastern and Western Europe and east to New Delhi as well as regional service to neighboring Arab States.

IA is operated by the Railway and Airway Administration but was to have become an independent Government corporation under the Ministry of Communications in April 1961. The Iraqi labor force is relatively untrained, and the airline uses the assistance

of foreign technicians, primarily British and Indian, in its operations. If the airline should purchase new jet aircraft, additional foreign technicians will be required.

Scheduled flights through the Basra airport are operated by 4 international airlines, 2 of which are regional carriers, and regular service to the Baghdad airport is offered by 6 regional airlines and 7 other international lines. In addition, 14 non-Iraqi airlines offer irregular service to or through Iraq.

Disposal and Reequipment Programs

Iraq Airways would like to obtain two, medium-range, jet aircraft and is negotiating with several manufacturers, but as of February 1961 no final choice had been reported. Aircraft reportedly under consideration are the Boeing 720, Convair 880, Douglas DC-8, De Havilland Comet, and Soviet TU-104. The airline wishes to dispose of its Vikings, but has announced no plans for the replacement of its Viscounts.

GENERAL AVIATION

Little general aviation is carried on. The Department of Agriculture owns 3 Piper Cubs and 4 Bell helicopters that it uses for crop dusting and pest control, and the flying club owns 5 Auster aircraft and 1 Zlin 226. The Iraq Petroleum Company uses 2 Twin Pioneers and 5 Doves for business purposes, and a construction company uses 2 Cessna 180's.

MARKET POTENTIAL

The market potential for aircraft in Iraq is not large. The economy has little industry to support general aviation, and the demand for aircraft in agriculture, the principal occupation, is limited to the Department of Agriculture. The Government is attempting to expand the economy. Oil reserves are the main source of financing an extensive construction and development plan covering the fiscal years 1959-63, which includes industrial, agricultural, and transportation projects. The U.S.S.R. is committed to a large amount of aid to this program. If the plan succeeds, the demand for air service should increase.

The airline is considered important to national prestige, and this factor, together with operational economics, will influence the nature of new aircraft acquisitions. Under the circumstances, piston aircraft of the types surplus in the United States would appear to have little sales potential in Iraq. The jet aircraft being purchased will probably fill the needs of IA for the near future. The main market for aircraft in general aviation will probably continue to be the Department of Agriculture.

All imports into Iraq must have an import license; however, aircraft, parts, and accessories are not subject to import allocation, and application for an import license may be made at

any time. These items are subject to a 10-percent ad valorem import tax but are duty free when imported by the Government.

Iraq Civil Air Fleet-40

Iraqi Airways		8
Vickers Viscount	4	
Vickers Vikings	3	
De Havilland Dove	1	
General aviation, total		32
Government:		
Piper Cub	13	
Bell helicopter	4	
Iraq Airplane Society:		
Auster	5	
Zlin 226	1	
Iraq Petroleum Company:		
Scottish Aviation-Twin Pioneer	2	
De Havilland Dove	5	
Derbendi-Khan Construction Co:		
Cessna 180	2	

Israel

The Republic of Israel has an area of about 8,000 square miles, or slightly more than the State of New Jersey. Its topography and climate vary considerably, from the arid Negav desert to the fertile Jordan Valley. The population is about 1.8 million. Agriculture, using modern intensive methods, is a major activity, and industrial development is increasing. The growth rate in 1960 was 10 percent for manufacturing, compared with 5 percent for agricultural production. The Government is actively engaged in expanding both industry and agriculture, and many manufacturing firms are owned wholly or partly by the State.

ROLE OF AIR TRANSPORTATION

International is more important than domestic air service, land traffic being shut off owing to conflict with neighboring nations. Surface transportation, mainly by truck, is adequate in this small country, and sea and air links are relied upon for international service. Lod Airport, near Tel Aviv, is the main international airport, and it has maintenance and repair facilities for most types of aircraft. It is being improved by the addition of a new, longer runway for jets and more modern lighting and navigation facilities.

Israel Aircraft Industries, Ltd. (IAI), has been granted repair station status by the U. S. Federal Aviation Agency and the Civil Aviation Department of Israel. It does maintenance and repair work for the Israel airlines and for most of the international airlines calling at Lod. IAI's work has grown to include manufacture as well as repair of aircraft. It is producing the CM170R Magister twin-jet military trainer under a license agreement with the French firm of Potez-Air-Fouga and is contemplating the manufacture of a locally designed aircraft, a 7-9 passenger executive transport powered by 2 rear-mounted jets.

Air transportation is regulated by the Department of Civil Aviation, within the Ministry of Transport and Communications. Israel has signed bilateral civil aviation agreements with 11 countries.

AIRCRAFT IN USE

Israel has 68 aircraft in its civil airfleet. The airlines own 18, of which 11 are U. S. makes. Most of the 50 aircraft in general aviation are single-engine, utility types; 78 percent are U. S. makes.

COMMERCIAL AIRLINES

Service

El Al Israel Airlines, Ltd. (El Al), is the only scheduled Israel national flag airline in international aviation. Its largest shareholder is the State of Israel. The airline offers international services only, operating 4 Bristol Britannias and 4 Lockheed Constellations. From Lod Airport, flights go to various points in Western Europe and to New York, Nairobi, Johannesburg, and Istanbul. In 1959, El Al carried 88,000 passengers and 1,500 metric tons of freight.

Arkia Israel Inland Airlines, Ltd. (Arkia), also owned primarily by the Government, provides the only scheduled domestic air service. Arkia operates 4 DC-3's and a Beechcraft, and serves the 5 civil airports.

Nonscheduled charter service is offered by Aviatour Air Services, Ltd., using a De Havilland Dove and an Airspeed Consul, and by Al-Shem Company using 2 DC-3's.

Lod Airport is served by 11 scheduled foreign flag airlines.

Disposal and Reequipment Programs

El Al purchased 2 Boeing 707's, delivery to have been made in May or June of 1961, and has an option on a third. It is also negoiating for purchase of 2 Boeing 720B's. Arkia has negotiated for the purchase of 2 or 3 Max Holste Super Broussards to replace its old DC-3's.

GENERAL AVIATION

Israel had 50 aircraft in general aviation activity at the end of 1960. Crop dusting is done by 3 companies, using 25 aircraft. Chem Avir Agricultural Aircraft Service, Ltd., operates 17 Piper aircraft; Marom Agricultural Aircraft Service, Ltd., 5 Stearman's; and Wings of Israel, Ltd., 2 helicopters and an S-11. The Aero Club of Israel has more than 70 branches and membership of more than 2,000. It uses 8 Piper aircraft. The Aero Club of IAI has 3 Fokkers. Various departments of the Government use 4 aircraft, and private flying 10.

MARKET POTENTIAL

The immediate needs of El Al for international service would appear to be met by the 707's and 720's. General aviation and domestic air service needs are not large because the surface transportation system is satisfactory. The market may be primarily for replacement aircraft. No market is seen for long-range, piston aircraft. Aircraft and parts imported into Israel are exempt from duty but need import licenses. The licensing system is used to insure the pattern of trade desired by the Government.

Israel Civil Air Fleet—68

Commercial airlines, total	18
Scheduled:	
El Al Israel Airlines, Ltd. (El Al):	
Bristol Brittanias	4
Lockheed Constellations	4
Fokker Instructor S-11	1
Arkina Inland Airlines Company (Arkina):	
Douglas DC-3	4
Beechcraft C-45	1
Nonscheduled and charter:	
Avitour Air Services, Ltd. (Avitour):	
De Havilland Dove	1
Airspeed Consul	1
Al-Shem Company:	
Douglas DC-3	2
General aviation, total	50
Crop dusting:	
Chem Avir:	
Piper PA-18	2
Piper PA-150	15
Marom:	
Stearman	5
Wings of Israel, Ltd.:	
Kolibri (helicopter)	2
Fokker Instructor S-11	1

Israel Civil Air Fleet—68—Con.

General aviation--Con.	
Business and private flying:	
Piper J3	1
Piper PA18	1
Canadian Car and Foundry Norseman	2
Cessna 180	1
Sud Aviation Alouette 130	1
Douglas DC-3	4
Aero Club of Israel:	
Piper PA-18	8
Aero Club of IAI:	
Fokker S-11	3
Civil government:	
Beechcraft D18S	1
Sud Aviation Alouette 130	2
Douglas DC-3	1

Jordan

The Kingdom of Jordan has an area of about 37,000 square miles, slightly larger than the State of Indiana, and a population of approximately 1.4 million. The economy is underdeveloped, and natural resources are scarce. The climate is hot and dry, and the lack of an adequate supply of water is a constant problem.

ROLE OF AIR TRANSPORTATION

Because Jordan does not have a well-developed surface transportation system, aircraft are necessary for rapid and efficient domestic and international travel. Tourism is becoming an important source of revenue, and, as part of its comprehensive program to provide better tourist facilities throughout the country, the Government is attempting to improve airport facilities. Of the country's 9 airports, only the international airports at Amman and Jerusalem are capable of handling aircraft heavier than the DC-3.

AIRCRAFT IN USE

As of January 1961, the civil air fleet comprised 8 craft--a DC-3, a Convair 240, 2 DC-4's, 2 DC-6's, and 2 light, utility planes.

COMMERCIAL AIRLINES

Service

Air Jordan of the Holy Land, Ltd., is the only scheduled national flag airline. It provides domestic service to Jerusalem, Amman, and Aqaba, and the surrounding countries of Saudi Arabia, Kuwait, United Arab Republic, Syria, Lebanon, and Cyprus.

Air Jordan is owned partly by U. S. and partly by Jordanian business interests.

One other airline is registered in Jordan, namely, the Jordan International Airline (JIA). It operates from Beirut using a single DC-4 that provides charter service.

Amman is also served by 5 foreign flag airlines.

Disposal and Reequipment Programs

The airlines have no known disposal or reequipment programs.

GENERAL AVIATION

There is no general aviation activity in Jordan.

MARKET POTENTIAL

The potential market for aircraft, new or used, is negligible. The country is not large in size, population, or industrial potential. The only airline in the country has strong international competition from other regional carriers and is experiencing financial difficulties. Therefore, it is not a promising market in the near future. Because of the absence of general aviation activity, no market prospects exist in that area.

Aircraft require import licenses but are not subject to any import duty.

Jordan Civil Air Fleet--8

Air Jordan:	
Douglas DC-3	1
Douglas DC-4	2
Douglas DC-6	2
Convair 240	1
Aerocoup	1
Piper Club	1

Kuwait

Kuwait, located at the head of the Persian Gulf, is an independent sheikdom that has special treaty relations with the United Kingdom. A desert occupying only about 6,000 square miles, the country has an estimated population of 225,000 and an economy based upon oil. It ranks second in world exports of petroleum.

ROLE OF AIR TRANSPORTATION

The principal role of aviation in Kuwait is the international transportation of passengers. Little demand arises for domestic air service. The country has only one commercial airfield. Un-

til recently the United Kingdom handled Kuwait's civil aviation, but in mid-1960 the local Government assumed this responsibility. The Government hopes to make the country an important international aviation center. The airport at the town of Kuwait is to be expanded by the Kuwait Board of Construction and Economic Development to enable it to handle modern, long-range jets.

AIRCRAFT IN USE

Of the 18 aircraft in use, as of December 1959, 8 are single-engine aircraft and the rest multiengine transports. The only U. S. makes are 2 DC-4's, the rest being British.

COMMERCIAL AIRLINES

Service

Kuwait has 2 national flag carriers, Kuwait Airways and Trans Arabian Airline. Kuwait Airways provides service from Kuwait to Damascus and Beirut, using 3 Viscounts. It has an operating agreement with the British Overseas Airways Corporation (BOAC), which supplies technical assistance. Trans Arabian Airline (TAA) provides service to Damascus and Beirut using 2 DC-4 aircraft.

Kuwait is served by 14 foreign flag airlines; 2, BOAC and Swissair, are European, and the rest are regional carriers.

Disposal and Reequipment Programs

Kuwait Airways plans to add 1 Viscount to its fleet.

GENERAL AVIATION

The only business flying is done by the oil company in its 1 Viscount and 2 Twin Pioneer aircraft and using its own two landing strips. The only private flying is done by the Government-sponsored Aero Club, in 2 Dove and 8 Auster aircraft.

MARKET POTENTIAL

The potential market for U. S. aircraft in this small country is negligible. The oil company must buy British aircraft when possible. Because Kuwait Airways has an operating agreement with BOAC, it is not likely to purchase other than British aircraft. All the aircraft owned by the Aero Club are U. K. makes, and it is reported that the club may buy 1 new Auster and 1 new Dove aircraft.

No import or foreign exchange licensing regulations cover aircraft. Aircraft and parts are subject to a 40-percent ad valorem import duty.

Commercial airlines, total	5
Kuwait Airways--Vickers Viscount	3
Trans Arabian Airline--Douglas DC-4	2
General aviation	13
De Havilland Dove	2
Auster	8
Vickers Viscount	1
Scottish Aviation, Ltd.--Twin Pioneer	2

Lebanon

The Republic of Lebanon has an area of almost 4,000 square miles, about the size of the State of Connecticut, and a population estimated at more than 1.6 million. The Lebanon Mountains bisect the country from north to south and separate the coastal plain and the Valley of the Bakaa. The climate is Mediterranean. Trade and agriculture are the bases of the economy, industrv being unimportant. The largest share of the national income is generated by trade and services, including tourism; agriculture and industry are second and third. The Government has adopted a policy of exercising minimum control over economic development.

ROLE OF AIR TRANSPORTATION

Lebanon is the center of air transportation activity in the Middle East. Little demand exists for internal air services because the country is small and has adequate surface transportation. However, owing to its strategic geographic position, Lebanon has become the hub of regional air service in the Arab States and a stop for international carriers flying between Europe, Asia, and Africa.

At the end of World War II, the Lebanese authorities recognized the growing importance of civil aviation. They sought to exploit Beirut's favorable location by building a first-class, international airport and air navigation facilities and by encouraging privately financed civil air carriers. These efforts were successful, and today Beirut international airport is used by 39 airlines and is a major maintenance and repair facility in the region. The maintenance and overhaul shops of Middle East Airlines (MEA) are the largest in Lebanon. These shops, formerly the Mideast Aircraft Service Company (MASCO), were acquired by MEA in 1960. In addition to MEA, the shops serve several regional carriers.

Lebanon has received substantial assistance in developing its civil aviation. The International Civil Aviation Organization mission in the country provides technical aid to the Department of Civil Aviation. The United States Operations Mission has aided in the development of the airport and air navigation facilities. The U. S. Federal Aviation Agency (FAA) maintains its Middle East International Field Office headquarters in Beirut.

AIRCRAFT IN USE

The airlines have 36 aircraft, of which 5 are not in active use. About half of the active fleet, 16 craft, are of U. S. manufacture, and the rest are British except for a French Caravelle. General aviation has 4 aircraft, one light, twin-engine transport and 3 single-engine aircraft, none of which are of U. S. manufacture.

COMMERCIAL AIRLINES

Service

The Lebanese airlines provide an extensive network of air passenger and freight services in the Middle East. Their early establishment and generally successful operations contributed to the emergence of Lebanon as an air center.

MEA is the largest of the Lebanese civil air carriers, and its scheduled services cover the Arabic States, Europe, and India. It was organized in 1945 with Lebanese capital. In 1947 it became an affiliate of Pan American Airways (PAA); in 1955 PAA sold its interest to BOAC, which still has a management and financial interest. The airline has 16 aircraft, but two Avro Yorks are not actively used. The active aircraft are 4 Comet IV's, 6 Viscounts, and 4 DC-3's.

Air Liban was organized in 1946 by Lebanese and Air France interests, and Air France still has a financial and a management interest in the airline. It has scheduled service to the Arab States, Europe, and Africa, provided by 8 aircraft--3 DC-3's, a DC-4, 3 DC-6's, and a Caravelle leased from Air France.

Lebanese International Airways (LIA) was organized in 1952 by Lebanese interests and has an extensive network of air routes allocated to it. However, the airline has not grown and operates only a single DC-6 on loan from Air Liban.

Trans-Mediterranean Airways (TMA) offers cargo charter services. Concentrating on the transportation of fresh fruits and vegetables to the Persian Gulf and the oil-producing areas of Iran and Iraq, it uses 12 aircraft--a Prentice Percival, 5 DC-4's, and 6 Avro Yorks. Three of the Yorks are not in use. The airline reported that in 1960 it made 18 million ton/miles available; 9.9 million ton/miles were used, and the aircraft flew 13,000 hours for a total of 1.8 million miles.

In addition to the 4 Lebanese airlines, the Beirut airport is patronized by 24 scheduled, foreign flag civil air carriers, of which 12 are major international carriers and 12 regional airlines.

Disposal and Reequipment Programs

MEA is engaged in a reequipment program. Its 4 newly purchased Comets have displaced Viscounts, which may be sold. TMA is replacing its York aircraft and has already acquired 5 used DC-4's. Its future plans are unknown, but used piston aircraft suitable for air cargo operations will probably be acquired. Air Liban would like to obtain additional Caravelle jets, but it

first must find the necessary capital. LIA would also expand its operation if it could obtain additional capital.

GENERAL AVIATION

General aviation activity is limited to the operation of 7 aircraft. The flying club has 2 Auster Eaglets, and a construction firm has 4 De Havilland Rapides and an Aero Commander.

MARKET POTENTIAL

Lebanon, which has good airport facilities and established airlines, is in a favorable position to share in the increasing Middle East air traffic. However, the growing, often subsidized, airlines of the other Arab States are increasingly strong competitors of the Lebanese airlines despite the advantage possessed by the latter by virtue of their early formation. For this reason, various proposals have been made for a merger of the several Lebanese airlines. The proposals usually include provisions for reequiping with more modern aircraft. Estimating future competition by the airlines of the other Arab States is complicated by the fact that most of them are national monopolies which are motivated by political as well as economic factors.

Aircraft of U. S. manufacture are widely used and have a good reputation in Lebanon. However, MEA might be expected to favor U. K. equipment because of its affiliation with BOAC; Air Liban may favor French equipment because of its affiliation with Air France. A small market for surplus piston aircraft may be found in air freight businesses, which do not need modern jet aircraft.

No licensing requirements cover the importation of aircraft, parts, or accessories, but a 15-percent ad valorem duty is imposed.

Lebanese Civil Air Fleet—40

Commercial airlines, total		36
Middle East Airlines:		
Avro York	2	(not in use)
Douglas DC-3	4	
Vickers Viscount	6	
De Havilland Comet IV C	4	
Air Liban:		
Douglas DC-3	3	
Douglas DC-4	1	
Douglas DC-6	1	(leased to LIA)
Douglas DC-6 AB	1	
Sud Aviation Caravelle	1	(leased from Air France)
Douglas DC-6B	1	
Trans Mediterranean Airways:		
Avro York	6	(3 not in use)
Douglas C-54G	2	
Douglas C-54E	3	
Percival Prentice	1	

Lebanese Civil Air Fleet—40—Con.

General aviation, total	4
Flying Club: Auster Eaglets	2
Business:	
De Havilland 89A	1
Poland PZL 102	1

Persian Gulf States

Because they have only a nominal amount of aviation activity, the following Persian Gulf States are treated as a group; Bahrain, Qatar, The Sultanate of Muscat and Oman, and seven sheikdoms called the Trucial States. These States do not have well defined borders. Their combined size is about 100,000 square miles, approximately the size of Colorado, and the population about 940,000. The climate is hot and humid in the summer and warm and dry in the winter, and annual rainfall averages 2-3 inches.

The States have no inland waterways, no railroads, and few paved roads except in Bahrain. Their economies are based largely on trade, except for the oil industry in Bahrain and Qatar and the agricultural-pastoral economy of Muscat and Oman and some of the Trucial States. Bahrain, Qatar, and the Trucial States have special treaty relations with the United Kingdom. The Sultanate of Muscat and Oman is independent, but its foreign relations are conducted by the United Kingdom.

ROLE OF AIR TRANSPORTATION

Aircraft provide the only rapid and efficient means of transportation in the States. They are used in the oil companies' explorations for oil and by local businessmen and governments for transportation between the widely separated population centers. The main airfield, at Manama in Bahrain, is used by the international airlines. The other airfields are less well developed and suitable only for light plane use. Middle East Airlines and Kuwait Airlines stop at Doha, in Qatar, and Aden Airways stops at Sharjah in the Trucial States.

AIRCRAFT IN USE

Gulf Aviation uses 2 De Havilland Herons and 4 De Havilland Doves. A small number of light aircraft of unknown types are used by the oil companies.

COMMERCIAL AIRLINES

Service

The only airline in the Gulf States is Gulf Aviation, whose headquarters is in Bahrain. The company is owned 51 percent by BOAC and the remainder by local interests. Gulf Aviation offers scheduled and nonscheduled service in the area, using 2 De Havilland Herons and 4 De Havilland Doves. Transportation to and

from the Gulf States, through Bahrain, is provided by BOAC, Middle East Airlines, Kuwait Airlines, Iraqi Airways, and Aden Airways.

Disposal and Reequipment Programs

Gulf Aviation is reported to be interested in replacing its De Havilland Dove aircraft with twin-engine pressurized turboprop aircraft.

GENERAL AVIATION

General aviation activity is limited to business flying by the oil companies.

MARKET POTENTIAL

The market potential for U. S. aircraft in the Persian Gulf States is small. Economic development that could create a demand for aircraft has been slight. It is unlikely that the one airline would purchase any except U. K. aircraft.

Persian Gulf States Civil Air Fleet--6

Gulf Aviation:	
De Havilland Heron	2
De Havilland Dove	4

Saudi Arabia

The Kingdom of Saudi Arabia has an area of 610,000 square miles, slightly larger than Alaska, and a population estimated at about 6 million. The country is mainly desert, and the climate is hot and dry. The economy is based on the modern oil industry, which is imposed upon an ancient, agrarian-pastoral society. Oil is the main natural resource; some 90 percent of the country's foreign exchange is derived from oil royalties and income taxes on the oil companies.

ROLE OF AIR TRANSPORTATION

The area has few roads and only one railroad. Aircraft provide the only rapid and efficient means of transportation across the desert. The 3 main commercial airports and approximately 27 sandy airstrips serve nearly every important inhabited area. Only the oil companies, which have their own fleets, do any volume of general flying. Civil aviation is regulated by the Civil Aviation Department, which is under control of the Minister of Defense and Aviation. Even though the Government is giving high priority to road construction, air travel should continue to be important because of its speed and comfort.

AIRCRAFT IN USE

About 44 aircraft were in use as of January 1960, 25 by the airline and the remainder in general aviation. U. S. makes totaled 41, mostly multiengine transports.

COMMERCIAL AIRLINES

Service

The only domestic airline, Saudi Arabian Airlines (SAA), is owned by the Government, and technical operations are provided, under contract, by Trans World Airlines (TWA). SAA provides domestic service to the 30 airfields in Saudi Arabia and international flights to the surrounding Near East countries. This service includes scheduled and nonscheduled commercial flights and transportation for the royal household. The airline's 25 aircraft are 9 DC-3's, 3 DC-4's, 10 Convair 340's, 1 DC-6, and 2 light, single-engine aircraft used for training.

Total aircraft miles flown increased from about 3.2 million in 1954 to 4.3 million in 1958. The main commercial airports have scheduled service by 16 foreign flag airlines. During the annual pilgrimage, special flights are made to Jidda by an additional 10 foreign airlines.

Disposal and Reequipment Programs

SAA has no formal program for the acquisition of new aircraft.

GENERAL AVIATION

General aviation activity is limited to a few business firms and the Government.

For supply and maintenance of its oil installations, Aramco maintains a fleet of 13 aircraft, namely 2 Convair 340's, 6 Douglas DC-3's, 3 De Havilland Beavers, and 2 DC-6's. The DC-6's were used for trans-Atlantic operations, which have been discontinued, and the aircraft are for sale. Trans Arabian Pipeline Co. (Tapline) uses a Douglas DC-3 leased from Aramco in its business operations. An additional 5 aircraft--3 Beechcraft and 2 Cessna--are used by government and business. Pleasure and flying club aviation is not encouraged by the Government.

MARKET POTENTIAL

The market for aircraft in Saudi Arabia is not large at present, but it should increase during the next few years. The passenger and freight traffic of SAA has grown since 1954, and this trend is expected to continue. A market is expected during the next 2-3 years for used aircraft of about 3-4 DC-6's. Plans of the airline for the acquisition of new aircraft are not known; presumably jet as well as turboprop and piston-powered aircraft will be considered.

The general aviation market is small because few individuals or firms are able to afford their own aircraft. However, as the Government succeeds in promoting economic growth, the demand for aircraft in general aviation should increase. U. S. aircraft

and equipment are preferred in Saudi Arabia and are used almost exclusively by the airline and in general aviation.

Aircraft and parts may be imported freely, no import licensing or foreign exchange controls being in effect. Aircraft and parts are subject to an import duty of 20 percent ad valorem and a surtax of 2 percent (or 10 percent of the customs duty).

Saudi Arabian Civil Air Fleet--44

Saudi Arabian Airlines	25
Douglas DC-4	3
Douglas DC-3	9
Convair 340	10
Douglas DC-6B	1
Cessna 180	1
Champion Deluxe Traveler	1
General aviation, total	19
Aramco:	
Douglas DC-6	2
Convair 340	2
Douglas DC-3	6
De Havilland Beaver	3
Trans Arabian Pipeline Co.--DC-3	1
Other business:	
Beechcraft 18	2
Beechcraft Super 18	1
Government--Cessna 175	2

Sudan

The Republic of Sudan attained its independence in January 1956, and a parliamentary government was in effect until November 1958, when a military junta assumed power. Having an area of approximately 970,000 square miles or about one-fourth that of the U. S., and about 11 million inhabitants, it is a large plateau whose topography varies from tropical rain forests in the south through savannas to the desert in the north. Land and water resources are the chief assets of the agricultural-pastoral economy. Agriculture in the north is dependent upon the Nile; the south has rain but lacks an adequate means of transporting its crops to outside markets. Cotton, the main crop, provides 60-80 percent of the available foreign exchange.

ROLE OF AIR TRANSPORTATION

The lack of an adequate surface transportation system in a country one-fourth the size of the United States has made air transportation particularly important in the Sudan. Aircraft provide fast and reasonably comfortable transportation throughout the country, and have speeded trade and government administration.

The geographic position of Sudan athwart the main north-south and east-west air routes in Africa has given the country strategic importance in international air traffic. Khartoum airport is a stop for airlines using these routes, and plans have been reported for the construction near Khartoum of an airport large enough for long-range jets.

Regulation and promotion of civil aviation is the responsibility of the Sudan Department of Civil Aviation, within the Ministry of Communications.

AIRCRAFT IN USE

Of the 24 civil aircraft based in Sudan, as of October 1959, 12 are operated by the national airline--a Vickers Viscount, 4 De Havilland Doves, and 7 Douglas C-47's. The other 12, in general aviation, are 7 Auster, 1 Broussard, 2 Cessna, and 2 Piper aircraft.

COMMERCIAL AIRLINES

Service

The Government-owned Sudan Airways, the only national flag airline, provides domestic and international service. In 1959, it carried 36,000 passengers, double the number in 1953. Air cargo accounts for about 10 percent of the total revenue. About one-third of the 37 airfields in the country have scheduled service, and the remainder are served by charter flights. International service is offered to Saudi Arabia, UAR, Lebanon, and Aden. The airline's Viscount is leased from Airwork, Ltd., which also provides crews and maintenance. One of the Doves is on loan to the Survey Department for use in aerial mapping.

Sudan is served by 16 foreign flag airlines, including regional and major international carriers.

Disposal and Reequipment Programs

Sudan Airways hopes to purchase the leased Viscount and possibly an additional one if the necessary foreign exchange can be obtained. Additionally, the airline is investigating the possibility of obtaining financing for the purchase of Boeing 720 jets.

GENERAL AVIATION

Of the 12 aircraft used in general aviation activity, 7 are used for crop dusting, 3 are used for business, and 2 are operated by the Missionary Aviation Fellowship. Sudanese registration is limited to aircraft owned by Sudan nationals, the Government, or firms controlled by Sudanese. Therefore the 3 business aircraft that are used by a U. K. firm and the 2 owned by the Fellowship are not registered in Sudan even though they are based in the country.

MARKET POTENTIAL

Whether or not a market for aircraft will develop in the Sudan will depend upon the economic progress of the country. The Government is attempting to diversify agriculture and reduce dependence upon cotton. Industries that process Sudanese agricultural products are being encouraged, and the country is being explored for mineral resources. If these measures are effective, a modest market for aircraft should arise.

Sudan Airways has indicated that long-range, used aircraft would not be desired unless the price is very low. Even then it would be reluctant to acquire aircraft of a type different from those already in use because its limited maintenance facilities are not equipped for other types.

Aircraft, parts, and accessories are not subject to licensing restrictions and may be imported under an open, general license. However, all imports must be registered with the Ministry of Commerce. Such products imported for non-Government use are subject to a 10-percent ad valorem duty.

Sudanese Civil Air Fleet--24

Sudan Airways, total	12
De Havilland Dove	4*
Douglas C-47	7
Vickers Viscount	1
General aviation, total	12
Auster Autocrat	5
Auster Aiglet	1**
Broussard MH-1521	1
Cessna 180	2***
Auster MK 5-G	1
Piper Pacer	1
Piper Super Cub	1

* One is on loan to the Survey Department.
** U.K. registry.
*** American registry.

Turkey

The Republic of Turkey has an area of 287,000 square miles, or 8 percent more than the State of Texas, and a population of about 28 million. On the west is a fertile plain that rises eastward to steppelands and numerous mountains. The climate is temperate, the coastal fringe being warmer in all seasons than the steppe

country in the interior. Agriculture is the basis of the economy. A shift from subsistence to a more commercialized type of farming is in progress. Furthermore, the Government, which owns and operates many firms in various sectors of the economy, is attempting to increase industrial production.

ROLE OF AIR TRANSPORTATION

Air transportation is serving an increasing number of domestic and international travelers. An estimated 50 percent of the international travelers are air passengers. Departures by air from Turkey increased from about 54,000 in 1954 to 110,000 in 1959. The surface transportation system is adequate by standards of the region; in most instances air transportation is desired for its relative speed and comfort rather than on account of a lack of other means of transport.

About 30 airfields are used for civil aviation purposes, most of them operated by the Department of Airport Management and the remainder by military authorities. Yesilky Airport at Istanbul, where maintenance facilities are concentrated, is the main international airport. Aviation activity is regulated by the Civil Aviation Department, within the Ministry of Communications.

A few aircraft are productd in Turkey. The Government-owned factory, Makina Ve Kemya Endustrisi Kurumu (MKEK), at Ankara produces training aircraft and sailplanes for the national flying school, Turk Hava Korume. It has built the Miles Magister under British license and has also designed and built a twin-engine trainer.

Approximately 18 foreign flag airlines offer service to or through Turkey. Most of this international traffic stops at Istanbul or Ankara.

AIRCRAFT IN USE

Turkey has 79 aircraft in its civil air fleet, 38 of which are used by the airline and 41 in general aviation. A total of 33 planes, or 40 percent of the entire fleet, are of U. S. manufacture. About 67 percent of the airline's 38 craft are U. S. makes, mostly DC-3's. Of the 41 aircraft in general aviation, 26 are the Turkish-built Miles Magisters; in addition, 8 Pipers and 1 Taylorcraft are in agricultural use, 3 De Havilland Domini in nonscheduled operation, and 2 Percival Proctors in private use.

COMMERCIAL AIRLINES

Service

Turk Hava Yollari (THY), the only national flag scheduled civil air carrier, is owned and subsidized by the Government. It has separate summer and winter schedules, offering service to some

30 domestic airfields in the summer and to about 20 of them during the winter. THY also serves Beirut, Athens, Nicosia, and Rome. Its air fleet comprises 21 DC-3's,4 Viscounts, 6 F-27's, and 7 Herons.

Approximately 18 foreign flag airlines offer service to or through Turkey. Most of this international traffic stops at Istanbul or Ankara.

Disposal and Reequipment Programs

THY has ordered 10 F-27's, 5 from Fokker and 5 Fairchild. Each manufacturer has delivered 3 aircraft, the rest having been scheduled for delivery by the summer of 1961. The introduction of the F-27's has rendered 13 DC-3's and 6 Herons surplus, and the airline is seeking to dispose of them.

GENERAL AVIATION

Turk Hava Karuma, the national flying school, has 26 single-engine and 1 twin-engine Turkish-built trainers. Ucakla Zirai Karuma, a crop dusting firm, has 8 Piper 18's and 1 Taylorcraft. The firm has an additional 15 Piper 18's on order. Hurkus Hana Yollari, the only nonscheduled airline, has 3 De Havilland Domini aircraft. The 2 aircraft in general aviation are privately owned Percival Proctors.

MARKET POTENTIAL

The future market for aircraft will be governed by such factors as the general income level, the solution to the problem of foreign exchange shortage, and considerations of national prestige. Present needs of the airline will probably be filled by the F-27's on order, but the airline anticipates that competition from other airlines will force it to replace the Viscounts in international service with jet equipment by 1962. A tentative plan for the surplus DC-3's is use in a proposed air cargo service, but whether or not this service will be organized cannot be predicted.

Importation of aircraft for general aviation is prohibited except under special license, probably because of the foreign exchange shortage. If economic growth and the efforts of the Government can solve the exchange problem, a market for general aviation aircraft should develop. U. S. aircraft are preferred, but future sales will probably be influenced largely by price and financing. Parts and accessories may be imported under an open general license but are subject to a 5-percent ad valorem import duty.

Turk Hava Yollary (THY), total		38
Douglas DC-3	21	
Vickers Viscount	4	
Fokker F-27	3	
Fairchild F-27	3	
De Havilland Heron	7	
General aviation, total		41
Turk Hava Koruma (National flying school):		
MKEK THK 5A	1	
Miles Magister	26	
Ucakla Zirai Koruma (crop dusting):		
Piper PA-18A	8	
Taylorcraft 51	1	
Hurkus Hava Yollari (nonscheduled airline)--De Havilland Domini	3	
Privately owned--Percival Proctor	2	

United Arab Republic

The United Arab Republic (UAR) has a total area of 457,000 square miles, or a little more than twice that of Texas, and a total population of over 26 million. Egypt occupies 386,000 square miles and has 22 million people, and Syria 71,000 square miles and 4 million people. Egypt is mostly a barren desert crossed from south to north by the broad fertile valley of the Nile; its economy is primarily agricultural. Syria has low mountains and uplands and the Euphrates River in the eastern part. The climate is hot and arid, and the economy agricultural.

ROLE OF AIR TRANSPORTATION

Air service provides travelers with fast comfortable transportation across rugged terrain to widely scattered population centers and is an essential international communications link. The rapid communication it enables between Egypt and Syria promotes efficient governmental processes.

Syria has 4 airports in regular commercial use and 3 airstrips used by small chartered aircraft. Egypt has 8 civil airfields--5 used regularly, 2 used seasonally, and 1 used primarily for flying instruction. The international airfields at Damascus and Cairo are being improved to accommodate long-range jets. Civil aviation in the UAR is regulated by the Civil Aviation Department, Ministry of War.

Egypt has a small aircraft manufacturing industry, the Gomhouria Aircraft Factory at Heliopolis Airfield near Cairo, which

produces small trainer aircraft. The plant's current production is the Gomhouria MK 2, having a single, 145-horsepower engine. This plane has been supplied to the Egyptian Air Force as well as to Jordan, Sudan, and Saudi Arabia.

AIRCRAFT IN USE

Of the UAR's civil airfleet of 58 aircraft, which are divided equally between the commercial airline and general aviation, nearly 50 percent are U. S. makes. About half of the airline's planes as of early 1961 were of U. S. manufacture, and they included DC-3's, -4's, and -6's, and a Beechcraft 18. The others were U. K. makes, including Comets, Viscounts, and Vikings. Of the 28 aircraft in general aviation activity, 11 are U. S. and the remainder predominantly British makes. Most of these aircraft are light, utility types.

COMMERCIAL AIRLINES

Service

The Government-owned United Arab Airline is the only scheduled national flag airline. Until March 1960, the UAR had 2 national flag airlines, Misrair, an Egyptian airline, and Syrian Airlines in Syria, both of which were domestic monopolies. Thereafter, they were merged by Government decree and became the United Arab Airline.

The airline offers scheduled and nonscheduled service to 12 airfields in the UAR and international service to the Middle East and west to London. The Civil Aviation Department wants to offer service to West Africa, Karachi, New York, and possibly Latin America and Southeast Asia, but has no definite schedule for this expansion. The airline purchased 3 DC-6B's from Scandinavian Airlines System in March 1961 and sent technicians to Copenhagen for training in connection with this purchase. The rest of the airline's fleet includes 3 Comets, 3 DC-4's, 7 DC-3's, 6 Vikings, 6 Viscounts, and a Beechcraft 18S.

In addition to the above service, Syria and Egypt are served by 24 foreign flag airlines.

Disposal and Reequipment Programs

United Arab Airline has 2 Comets on order in addition to the 3 recently delivered.

GENERAL AVIATION

Little general aviation activity is carried on in Syria. The only business flying is done by Iraq Petroleum Company in its own aircraft. Some crop dusting and pest control spraying has been done by the Ministry of Agriculture with the assistance of the Air Force

and the FAO. As of 1959, 28 aircraft used for general aviation activity were registered in Egypt. The Misrair Flying Institute, which was operated by the airline, had 11 trainer aircraft; 7 light aircraft were in air taxi service; and 8 privately owned aircraft were in use, the majority probably for business flying. In addition, the National Petroleum Company had 2 aircraft for business use.

MARKET POTENTIAL

The airline has no known plans for the acquisition of additional aircraft other than the Comets on order, although its desire to expand services could generate some demand for additional aircraft. Because the airline is Government owned and operated, its management decisions and operational procedures are influenced strongly by considerations of national prestige. U.S. aircraft are in wide use, but future purchases will probably be made on the basis of suitability and price, rather than the country of origin.

Egypt and Syria do not yet have the same customs duties. In Egypt, the various import duties on aircraft total about 29-30 percent ad valorem, and in Syria the import duty on aircraft is 9 percent ad valorem. Because foreign exchange is in short supply, import licenses are needed in both countries, and they are issued only for goods considered essential. Inasmuch as the airline is owned by the Government, any aircraft imported by it would be classified as essential and not subject to import tax duties. In view of the primitive agricultural economy and shortage of foreign exchange, any sizable increase in general aviation will depend upon economic development.

UAR Civil Air Fleet—58

United Arab Airline, total		29
Douglas DC-6B	3	
Douglas DC-4	3	
Douglas DC-3	7	
Beechcraft 18	1	
Vickers Viking 1B	6	
De Havilland Viscount	6	
De Havilland Comet	3	
General aviation, total		29
Misrair Flying Institute:		
De Havilland Tiger Moth	2	
Ercoupe	1	
Auster VJ	2	
Auster Aiglet	2	
Gomhouria MK2	3	
Aero 45	1	

Egypt Air:	
Auster J5	4
Max Holste	1
Nord 1203	1
Air Orient--Fiat G212	1
National Petroleum Co.:	
Beechcraft Bonanza	1
Beechcraft 18S	1
Provately owned:	
Fairchild UC 61K	1
Oxford AS40	1
Beechcraft Bonanza	1
Fairchild F-24	3
Curtiss C-46A	1
Beechcraft 18S	2

Yemen

The Kingdom of Yemen is about 75,000 square miles in area, slightly smaller than South Dakota, and has a population estimated at 4.5 million. It is mountainous except for a coastal plain about 40 miles wide. The climate varies according to altitude, and the country receives ample rainfall in the interior plateau. The economy is predominantly agricultural.

ROLE OF AIR TRANSPORTATION

Yemen has no railroads, and its road system is poor; aircraft provide the only rapid means of transportation about the country. The country has about 9 airfields, but only those at the 3 principal cities have communication or refueling facilities. The largest aircraft that operates from these airfields is an IL-14.

AIRCRAFT IN USE

The Yemen civil air fleet is composed of 9 aircraft. All except 2 helicopters are twin-engine transports.

COMMERCIAL AIRLINES

Service

Yemeni Air Lines is the only domestic airline. It operates as a private air fleet of the Imam, or head of the State, rather than as a commercial venture, and flights are undertaken only by order of the Government. The airline has 3 DC-3's and 3 Aero Commanders. Aditionally, the U.S.S.R. has provided an IL-14 and 2 helicopters that are manned and serviced by Soviet crews. Two foreign airlines serve Yemen, Ethiopian Air Lines and Saudi Arabia

Air Lines. They operate weekly schedules to Ethiopia and Saudi Arabia using DC-3's.

Disposal and Reequipment Programs

The airline has no known disposal or reequipment programs.

MARKET POTENTIAL

Yemen has little market potential for aircraft. The country is poor, and a larger air fleet would probably require foreign aid for operation and financing.

Yemen Civil Air Fleet--9

Yemeni Airlines:	
Douglas DC-3	3
Aero Commander	3
IL-14	1
Helicopters (USSR)	2

U. S. Exports of Aeronautical Products to the Near and Middle East, 1958-60

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Aircraft, and aircraft engines, total....	.....	3,321,809	.....	2,264,748	.....	4,770,249
Commercial and civilian aircraft, total.....	23	2,916,888	24	2,046,498	33	4,475,978
Aircraft 3,000 pounds and over, empty airframe weight:						
Passenger transports, commercial, new, 3,000-14,999 pounds:						
Iran.....	1	90,000	.....	.....	.....	.....
Jordan.....	1	124,680	.....	.....	.....	.....
Turkey.....	.....	.....	1	126,766	1	.....
Saudi Arabia.....	.....	.....	.....	.....	1	155,129
Passenger transports, commercial, new, 15,000-29,999 pounds:						
Turkey.....	.....	.....	.....	.....	3	2,201,190
Passenger transports, commercial, new, 30,000 pounds and over:						
Lebanon.....	1	1,214,469	.....	.....	.....	.....
Commercial and civilian aircraft, used and rebuilt, including converted:						
Aden.....	.....	.....	.....	.....	1	945,000
Iran.....	1	500,000	.....	.....	.....	.....
Israel.....	2	40,000	.....	.....	.....	.....
Jordan.....	2	800,000	.....	.....	1	330,000
Lebanon.....	.....	.....	2	480,000	2	380,000

See footnotes at end of table.

U. S. Exports of Aeronautical Products to the Near and Middle East, 1958-60—Con.

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Commercial and civilian aircraft—Con.						
Aircraft under 3,000 pounds, empty airframe weight:						
Utility, commercial and civilian, new 3 places and under:						
Iran	.....	.....	.....	.....	5	50,000
Iraq	.....	.....	4	40,000	.....	.....
Israel	7	44,742	10	78,232	6	44,831
Lebanon	1	11,837	.....	.....	.....	.....
Saudi Arabia	.....	.....	2	18,000	.....	.....
Sudan	.....	.....	.....	.....	1	10,000
Turkey	.....	.....	.....	.....	2	21,560
Utility, commercial and civilian, new, 4 places and over:						
Egypt	.....	.....	2	78,000	.....	.....
Iran	3	40,798	.....	.....	4	234,745
Saudi Arabia	2	26,000	.....	.....	2	35,076
Sudan	.....	.....	.....	.....	2	36,573
Turkey	1	12,500	.....	.....	.....	.....
Commercial and civilian aircraft, used and rebuilt, including converted:						
Iran	.....	.....	2	25,500	1	15,937
Aircraft, new, not elsewhere classified:						
Sudan	1	11,862	.....	.....	.....	.....

Aircraft engines, new, under 400 horsepower, and used and rebuilt, total [1]	58	404,921	109	218,250	89	294,271
Reciprocating, new, air cooled, under 400 horsepower:						
Egypt	.....	.....	36	57,225	32	46,503
Iran	5	16,680	6	19,636	1	2,091
Iraq	4	6,061	.....	.....	.....	.....
Israel	3	4,477	2	3,878	1	2,091
Lebanon	2	11,331	.....	.....	.....	.....
Arabia (Gulf States) [2]	2	19,040	.....	.....	.....	.....
Saudi Arabia	1	5,000	.....	.....	3	13,559
Sudan	1	2,500	1	2,139	2	5,461
Turkey	3	9,711	11	29,185	.....	.....
Reciprocating, used and rebuilt:						
Arabia (Gulf States [2]	2	6,500	6	21,659	6	21,306
Egypt	1	3,000	1	3,866	1	17,000
Iran	3	30,250	2	4,859	4	19,400
Iraq	2	6,000	.....	.....	.....	.....
Israel	2	2,531	28	52,270	5	6,400
Jordan	3	14,000	.....	.....	1	4,110
Lebanon	5	20,000	3	11,133	7	150,000
Saudi Arabia	18	243,630	12	62,200	24	400,800
Sudan	.....	.....	.....	.....	1	2,750
Turkey	1	4,200	1	4,200	1	3,500

[1]Number and value of new engines over 400 horsepower are not available by country of destination, but are included in the world total.

[2]Gulf States include Bahrain, Qatar, the Sultanate of Muscat and Oman, and seven sheikdoms called the Trucial States.

Source: Report No. FT-410, Part II, U.S. Exports of Domestic and Foreign Merchandise, Bureau of the Census, U.S. Department of Commerce.

U. S. World Exports of Aeronautical Products, 1958-60

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Aircraft, and parts and accessories, total	.....	971,541,000	.....	768,980,000	.....	1,329,343,000
Commercial and civilian aircraft, total	1,689	204,051,000	1,629	152,962,000	2,336	537,126,000
Parts and accessories, total	.....	767,670,000	.....	616,018,000	.....	792,217,000
Aircraft engines, reciprocating, new, air cooled, under 400 horsepower	1,552	4,312,000	948	2,448,000	1,464	3,715,000
Aircraft engines, reciprocating, used and rebuilt	1,761	7,850,000	1,250	4,846,000	1,558	10,392,000
Aircraft components, parts, and accessories, not elsewhere classified[1]	.....	775,508,000	.....	608,724,000	.....	778,110,000

[1] Includes military aircraft.

Source: Report No. FT-410, Part II, U.S. Exports of Domestic and Foreign Merchandise, Bureau of the Census, U.S. Department of Commerce.

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